LPDES PERMIT NO. LA0005983, AI No. 1137

LPDES FACT SHEET and RATIONALE

FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM (LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. Company/Facility Name: Occidental Chemical Corporation

Taft Plant

266 Highway 3142

Hahnville, Louisiana 70057

II. Issuing Office: Louisiana Department of Environmental Quality

(LDEQ)

Office of Environmental Services

Post Office Box 4313

Baton Rouge, Louisiana 70821-4313

III. Prepared By: Christy Clark

Industrial Permits Section Water Permits Division Phone #: 225-219-3401

E-mail: christy.clark@la.gov

Date Prepared:

September 16, 2009

IV. Permit Action/Status:

A. Reason For Permit Action:

Proposed reissuance of a Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46*.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.2301, 4901, and 4903.

B. NPDES permit - NPDES permit effective date: N/A

NPDES permit expiration date: N/A

EPA has not retained enforcement authority.

C. LPDES permit - LPDES permit effective date: September 1, 2004

LPDES permit modification effective date:

December 1, 2004

LPDES permit expiration date: August 31, 2009

> D. Application received on February 23, 2009. Additional information received via mail on October 19, 2009 and vial e-mail on November 13, 2009, December 22, 2009, and January 5, 2010.

V. Pacility Information:

- A. Location 266 Highway 3142 in Hahnville (Latitude 29°59'14", Longitude 90°27'14")
- B. Applicant Activity -

According to the application, Occidental Chemical Corporation, Taft Plant (OxyChem) is an inorganic chemical manufacturing facility and a co-located co-generation facility and produces chlorine, sodium hydroxide (NaOH), potassium hydroxide (KOH), and hydrogen (a product that is sold or may be used as fuel at the co-generation facility).

C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

Guideline

Reference

Inorganic Chemicals-Chlor Alkali

40 CFR 415.63, Subpart F

Daily Production - 3232 (1000 lbs/day) Phase I 4252 (1000 lbs/day) Phase II

Steam Electric Power Generating Point Source Category*

40 CFR 423.13

*Since less than fifty (50) percent of OxyChem's revenue is generated from the sale of excess electricity generated at the co-generation facility to the local power grid, Guidelines at 40 CFR 423.13 are not applicable.

Other sources of technology based limits:

LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

Best Professional Judgment

Current LPDES permit effective September 1, 2004

- D. Fee Rate -
 - 1. Fee Rating Facility Type: major
 - 2. Complexity Type: V
 - 3. Wastewater Type: II
 - 4. SIC code: 2812, 2819, and 4911

- E. Continuous Facility Effluent Flow 3.703 MGD, Phase I 4.766 MGD, Phase II
- VI. Receiving Waters: Mississippi River (Outfalls 001 and 002) and Lac des Allemandes (Outfalls 003, 004, and 005)
 - A. Mississippi River
 - 1. TSS (15%), mg/L: 26.6
 - 2. Average Hardness, mg/L CaCO3: 149.7
 - 3. Critical Flow, cfs: 141955
 - 4. Mixing Zone Fraction: 0.3333
 - 5. Harmonic Mean Flow, cfs: 366748
 - 6. River Basin: Mississippi River, Segment No. 070301
 - 7. Designated Uses:

The designated uses are primary contact recreation, secondary contact recreation, fish and wildlife propagation, and drinking water supply.

Information based on the following: LAC 33:IX Chapter 11. Hardness and 15% TSS data come from monitoring station 321 on the Mississippi River (south of Lutcher, Louisiana) listed in Hardness and TSS Data for All LDEQ Ambient Stations for the Period of Record as of March 1998, LeBlanc. This information was provided in a Memorandum from Todd Franklin to Christy Clark dated November 16, 2009 (See Appendix C).

- B. Lac des Allemandes
 - 1. River Basin: Barataria, Segment No. 020202
 - 2. Designated Uses:

The designated uses are primary contact recreation, secondary contact recreation, and fish and wildlife propagation.

VII. Outfall Information:

Outfall 001

A. Type of wastewater - the continuous discharge of treated process wastewater from OxyChem's chlor-alkali units and associated co-generation facility, as well as from Air Products' Hydrogen Purification Plant and Koch's Nitrogen Ammonia Terminal; process area stormwater from OxyChem's chlor-alkali units and associated co-generation facility, as well as from Air Products' Hydrogen Purification Plant and Koch's Nitrogen Ammonia Terminal; brine processing wastewater; chlorine condensate; cell renewal wastewater; caustic evaporation wastewater; laboratory wastewater; pump and process seal water; miscellaneous wash waters (including equipment cleaning and descaling water, tank and equipment cleaning wastewater, and neutralized acid-cathode washing wastewater); hydrostatic test waters; cooling tower blowdown; utility condensate; sulfate purge wastewater; previously monitored effluent from Internal Outfall

101(treated groundwater remediation wastewater and process area stormwater from the groundwater remediation area); previously monitored effluent from Internal Outfall 201(treated sanitary wastewater); wastewaters associated with the co-generation facility operations (cooling tower blowdown, boiler blowdown, demineralization regeneration wastewater, filter backwash water, equipment drains, chemical metal cleaning waste, metal cleaning waste, and process area stormwater); and non-process area stormwater from OxyChem's chlor-alkali units and associated cogeneration facility, as well as from Air Products' Hydrogen Purification Plant and Koch's Nitrogen Ammonia Terminal.

- B. Location At the point of discharge from the effluent neutralization system prior to mixing with the waters of the Mississippi River. (Latitude 29°59'39", Longitude 90°27'21")
- C. Treatment treatment of process wastewaters consists of:
 - dechlorination
 - equalization/neutralization

Treatment - treatment of cogen unit wastewaters consists of:

- oil/water separation
- dechlorination

Treatment - treatment of chlor-alkali cell renewal wastewaters consists of:

- pressure filtration
- D. Phase I-

Flow - Continuous, 3.703 MGD

Internal Outfall 101	0.040	MGD
Internal Outfall 201	0.018	MGD
Cogen process area stormwater	0.022	MGD
Chlor-Alkali Process		
process wastewater	1.192	MGD
process area stormwater	0.078	MGD
brine processing wastewater	0.360	MGD
pump & process seal water	0.252	MGD
miscellaneous wash waters	0.294	MGD
sulfate purge wastewater	0.057	MGD
Utility Wastewater		
Chlor-Alkali cooling tower blowdown	0.333	MGD
Chlor-Alkali utility condensate	0.038	MGD
Cogen cooling tower blowdown*	0.451	MGD
Cogen boiler blowdown*	0.050	MGD
Cogen demineralization regeneration*	0.134	MGD
Cogen filter backwash water*	0.012	MGD
Cogen equipment drains*	0.033	MGD

Product loading and maintenance 0.028 MGD Non-process Area Stormwater 0.311 MGD *Flows not used in determining loading allocations

Phase II-Flow - Continuous, 4.766 MGD

Internal Outfall 101	0.040	MGD
Internal Outfall 201	0.018	
Cogen process area stormwater	0.022	
Chlor-Alkali Process		
process wastewater	1.957	MGD
process area stormwater	0.078	
brine processing wastewater	0.480	
pump & process seal water	0.252	MGD
miscellaneous wash waters	0.294	MGD
sulfate purge wastewater	0.057	MGD
Utility Wastewater		
Chlor-Alkali cooling tower blowdown	0.333	MGD
Chlor-Alkali utility condensate	0.038	MGD
Cogen cooling tower blowdown*	0.613	MGD
Cogen boiler blowdown*	0.050	MGD
Cogen demineralization regeneration*	0.178	MGD
Cogen filter backwash water*	0.012	MGD
Cogen equipment drains*	0.033	MGD
Non-process Area Stormwater	0.311	MGD
*Flows not used in determining loading allocation	ons	

- E. Receiving waters Mississippi River
- F. Basin and segment Mississippi River Basin, Segment 070301

Internal Outfall 101

- A. Type of wastewater the intermittent discharge of treated groundwater remediation wastewater and process area stormwater from the groundwater remediation area.
- B. Location At the point of discharge from the steam stripper treatment system prior to mixing with the waters of Final Outfall 001. (Latitude 29°59'14", Longitude 90°27'14")
- C. Treatment -
 - -filtration
 - -pH adjustment
 - -steam stripping
 - -carbon absorption
- D. Flow Intermittent, 0.040 MGD

- E. Receiving waters Mississippi River via Final Outfall 001
- F. Basin and segment Mississippi River Basin, Segment 070301

Internal Outfall 201

- A. Type of wastewater the intermittent discharge of treated sanitary wastewater from OxyChem, as well as from Air Products' Hydrogen Purification Plant, Koch's Nitrogen Ammonia Terminal, and the (inactive) Mosaic Fertilizer Plant.
- B. Location At the point of discharge from the aeration pond prior to mixing with the waters of Final Outfall 001.
 (Latitude 29°59'06", Longitude 90°27'34")
- C. Treatment -
 - -aerated lagoon
 - -chlorination
- D. Flow Intermittent, 0.018 MGD
- E. Receiving waters Mississippi River via Final Outfall 001
- F. Basin and segment Mississippi River Basin, Segment 070301

Outfall 002

- A. Type of wastewater The intermittent discharge of river water clarifier sludge
- B. Location At the point of discharge from the blowdown from the raw river water intake clarifier prior to mixing with other waters. (Latitude 29°59'37", Longitude 90°27'20")
- C. Treatment none
- D. Flow Intermittent, 0.341 MGD
- E. Receiving waters Mississippi River
- F. Basin and segment Mississippi River Basin, Segment 070301

Outfall 003

A. Type of wastewater - The intermittent discharge of low contamination potential stormwater runoff.

> B. Location - At the point of discharge from the end of the pipe at the fence line prior to mixing with the waters of LA Highway 3142 drainage ditch.

(Latitude 29°58'47", Longitude 90°27'25")

- C. Treatment none
- D. Flow Intermittent
- E. Receiving waters local drainage ditch, thence to St. Charles Canal, thence to Bayou Fortier, thence to Lac des Allemandes
- F. Basin and segment Barataria Basin, Segment 020202

Outfall 004

- A. Type of wastewater The intermittent discharge of low contamination potential stormwater runoff from an undeveloped area, an area around a closed, capped dredge disposal area, and an area around a raw brine pond.
- B. Location At the point of discharge from the facility drainage ditch located at the southwest corner of the facility prior to mixing with the waters of LA Highway 3127 drainage ditch. (Latitude 29°58'37", Longitude 90°28'07")
- C. Treatment None
- D. Flow Intermittent
- E. Receiving waters local drainage, thence to St. Charles Canal, thence to Bayou Fortier, thence to Lac des Allemandes
- F. Basin and segment Barataria Basin, Segment 020202

Outfall 005

- A. Type of wastewater The intermittent discharge of low contamination potential stormwater runoff.
- B. Location At the point of discharge from the ditch at the fence before exiting the facility property prior to mixing with other waters. (Latitude 29°58'49", Longitude 90°27'24")
- C. Treatment none
- D. Flow Intermittent

- E. Receiving waters local drainage, thence to St. Charles Canal, thence to Bayou Fortier, thence to Lac des Allemandes
- F. Basin and segment Barataria Basin, Segment 020202

VIII. Proposed Permit Limits:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

Summary of Proposed Changes From the Current LPDES Permit:

- A. Outfall 001 Due to the shutdown of the No. 1 Plant Diaphragm Cell Circuit, OxyChem has requested Phases I and II be incorporated into the permit in order to receive the proper allocations of effluent discharge limitations.
- B. Outfall 001 (Phase I & II) The request for monitoring frequency reductions of TSS, Total Residual Chlorine, and Oil & Grease has been partially granted. The monitoring frequency for Total Residual Chlorine has been reduced from 1/week to 1/2 months and the monitoring frequency for Oil & Grease has been reduced from 1/month to 1/quarter based on BPJ. The monitoring frequency reduction request for TSS of 1/week to 1/2 months has been denied. Although OxyChem does qualify for the requested reductions for TSS, the Department has determined that 1/2 months sampling is not an adequate frequency for this parameter at major facilities.
- C. Outfall 001 (Phase I & II) Monitoring requirements for Total Ammonia (as N) and Total Phosphorus have been deleted. These parameters were established to address phosphorus and nitrogen impairments in the Mississippi River (Subsegment 070301) as indicated in the Court Ordered 303 (d) list at the time of the last permit issuance. The most recent listing for impaired waterbodies (the 2006 Final Integrated Report) did not contain phosphorus or nitrogen as impairments in Subsegment 070301; therefore, these parameters have been deleted.

The LDEQ is aware of the occurrence of a low oxygen hypoxic or "dead zone" in the Gulf of Mexico and its relationship to nutrients and fresh water from the Mississippi River and has developed a criteria development plan for state waters in coordination with the EPA to create defensible nutrient criteria based on the best available science. Work on criteria for the Mississippi River is an ongoing effort and will require further scientific investigation because of the complex nature of the large Mississippi watershed which includes over 30 states and two Canadian Provinces. A reopener clause has been established in the permit in accordance with LAC 33:IX.2903 which allows LDEQ to modify, or alternatively, revoke and reissue the permit

to comply with any more stringent nutrient limitations or requirements that are promulgated in the future.

- D. Outfall 001 (Phase I & II) Part II conditions have been established for flow and pH measurement alternative procedures.
- E. OxyChem has requested addition of Other Conditions language to address Limits of Quantitation (LOQ) for Oil & Grease (4.6 mg/L). This language would allow Occidental Chemical to report zero (0) on their DMR if any individual analytical test result is less than the limit of quantitation. In accordance with the LOQ information provided in the LDEQ SOP for the Determination of Oil & Grease in Water (sop_1695_r04 dated December 12, 2007) and the SOP for the Determination of Sulfide (sop_1178_r04 dated January 10, 2008), this request has been granted.
- F. Internal Outfall 101 the STORET Code for 1,2-Dichloroethane has been changed from 34531 to 32103.
- G. Internal Outfall 101 In accordance with LAC33:IX.2707.L.2.a.ii. (b), the daily maximum limitation for Chloroform has been increased from 295 to 325 to be consistent with 40 CFR 414 Subpart J (Direct Discharge Point Sources That Do Not Use End-of-Pipe Biological Treatment).
- H. Internal Outfall 101 The monitoring frequency for chloroform, 1,2-dichloroethane,1,1,2,2-tetrachloroethane, and trichloroethylene has been reduced from 1/2 months to 1/quarter based on BPJ.
- I. Internal Outfall 201 The statistical basis has been changed to a daily maximum in lieu of a weekly average for all parameters at this Outfall. This change has been made to be consistent with the new LDEQ guidance for sanitary wastewaters. The monitoring frequency for BODs. TSS, and Fecal Coliform has been reduced from 1/month to 1/quarter based on BPJ. The monitoring frequency for Flow has also been reduced from 1/month to 1/quarter to be consistent with the other parameters at this internal outfall.

IX. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(1)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS, CONDITIONS, AND MONITORING REQUIREMENTS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgment) in the absence of guidelines, or on a combination of the two. The following is a rationale for types of wastewaters. See outfall information descriptions for associated outfall(s) in Section VII. Regulations also require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2715/40 CFR 122.48(b)] and to assure compliance with permit limitations [LAC 33:IX.2707.I./40 CFR 122.44(i)].

Outfall 001 (Phase I) - the continuous discharge of treated process ı. wastewater from OxyChem's chlor-alkali units and associated co-generation facility, as well as from Air Products' Hydrogen Purification Plant and Koch's Nitrogen Ammonia Terminal; process area stormwater from OxyChem's chlor-alkali units and associated co-generation facility, as well as from Air Products' Hydrogen Purification Plant and Koch's Nitrogen Ammonia Terminal; brine processing wastewater; chlorine condensate, cell renewal wastewater, caustic evaporation wastewater, laboratory wastewater, pump and process seal water; miscellaneous wash waters (including equipment cleaning and descaling water, tank and equipment cleaning wastewater and neutralized acid-cathode washing wastewater); miscellaneous utility wastewaters from Koch's Nitrogen Ammonia Terminal (including evaporative condenser water, equipment cleaning water, hydrostatic test water, and vehicle wash water); hydrostatic test waters; cooling tower blowdown; utility condensate; sulfate purge wastewater; previously monitored effluent from Internal Outfall 101 (treated groundwater remediation wastewater and process area stormwater from the groundwater remediation area); previously monitored effluent from Internal Outfall 201 (treated sanitary wastewater); wastewaters associated with the co-generation facility operations and non-process area stormwater from OxyChem's chlor-alkali units and associated cogeneration facility, as well as from Air Products' Hydrogen Purification Plant and Koch's Nitrogen Ammonia Terminal.

Occidental Chemical Corporation, Taft Plant is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Manufacturing Operation
Chlorine/Caustic,
(Diaphragm Cell, Mercury Cell)

Guideline
40 CFR 415.63, Subpart F

PARAMETER (S)		LBS/DAY rwise stated	CONCENTRA unless othe	MEASUREMENT FREQUENCY	
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report			Continuous
pH Range Excursions No. of Events >60 minutes		0 (*1)			Continuous
pH Range Excursions Monthly Total Accumulated Time in Minutes		446 (*1)			Continuous
pH (Standard Units)			Report (*1) (Min)	Report (*1) (Max)	Continuous
TSS	1847	3967			1/week
Oil and Grease	252	378			1/quarter
Chlorine, Total Residual	25.5	42.0			once per 60 days
Total Copper	15.84	38.78			once per 60 days
Total Lead	7.76	19.07			1/year
Total Nickel	11.96	31.35			once per 60 days
Biomonitoring	See IX.D			 -	1/year

^(*1) The pH shall be within a range of 6.0 - 9.0 Standard Units at all times subject to the continuous monitoring pH range excursion provision in Other Conditions, Paragraph I of the draft permit.

Flow: This requirement has been established in accordance with LAC 33:IX.2707.I.1.b and retained from the current LPDES permit. The continuous monitoring frequency has also been retained.

pH: This requirement has been established in accordance with LAC 33:IX.1113.C.1 and retained from the current LPDES permit. The continuous monitoring frequency has also been retained.

TSS: Daily maximum and monthly average limitations have been established based upon 40 CFR 415, Subpart F and Table 11-35 of the Inorganic Development Document. Process and non-process area stormwater allocations were given based upon a flow of 0.411 MGD and Table 11-35 of the Inorganic Development Document listing the Best Practicable Control Technology Currently Available as a Daily Maximum concentration of 120 mg/L and a Monthly Average concentration of 58 mg/L. Additionally, allocations were also given based upon 40 CFR 415, Subpart F using a production rate of 3232 (1000 lbs/day). See Appendix A for a more detailed explanation of limitation calculations. The monitoring frequency of 1/week has been retained from the current LPDES permit.

Oil & Grease: Daily maximum and monthly average limitations have been established based upon concentrations of 15mg/L daily maximum and 10mg/L monthly average and a flow of 3.023 MGD. See Appendix A for a more detailed explanation of limitation calculations. The monitoring frequency has been reduced from 1/month to 1/quarter based on BPJ.

Total Residual Chlorine: Daily maximum and monthly average limitations have been established based upon 40 CFR 415, Subpart F and a production rate of 3232 (1000 lbs/day). See Appendix A for a more detailed explanation of limitation calculations. The monitoring frequency has been reduced from 1/week to 1/60 days based on BPJ.

Total Copper, Total Lead, and Total Nickel: Daily maximum and monthly average limitations have been established based upon 40 CFR 415, Subpart F and a production rate of 3232 (1000 lbs/day). See Appendix A for a more detailed explanation of limitation calculations. The monitoring frequencies of 1/60 days for Total Copper and Total Nickel and 1/year for Total Lead have been retained from the current LPDES permit.

Site-Specific Consideration(s)

Chemical Metal Cleaning Waste: OxyChem does not expect that copper or zinc would be present at treatable levels in co-generation wastewaters due to their water treatment chemicals, and because virtually no brass or other admiralty metals are used at the co-generation facility. If treatable levels of copper or iron are encountered in chemical metal cleaning wastewater, these streams will either be treated on-site or will be collected separately and disposed of off-site.

2. Outfall 001 (Phase II) - the continuous discharge of treated process wastewater from OxyChem's chlor-alkali units and associated co-generation facility, as well as from Air Products' Hydrogen Purification Plant and Koch's Nitrogen Ammonia Terminal; process area stormwater from OxyChem's chlor-alkali units and associated co-generation facility, as well as from Air Products' Hydrogen Purification Plant and Koch's Nitrogen Ammonia Terminal; brine processing wastewater; chlorine condensate, cell renewal wastewater, caustic evaporation wastewater, laboratory wastewater, pump and process seal water; miscellaneous wash waters (including equipment cleaning and descaling water, tank and equipment cleaning wastewater and neutralized acid-cathode washing wastewater); miscellaneous utility wastewaters from Koch's Nitrogen Ammonia Terminal (including evaporative condenser water, equipment cleaning water, hydrostatic test water, and vehicle wash water); hydrostatic test waters; cooling tower blowdown; utility condensate; sulfate purge wastewater; previously monitored effluent from Internal Outfall 101 (treated groundwater remediation wastewater and process area stormwater from the groundwater remediation area); previously monitored effluent from Internal Outfall 201 (treated sanitary wastewater); wastewaters associated with the co-generation facility operations (cooling tower blowdown, boiler blowdown, demineralization regeneration wastewater, filter backwash water, equipment drains, chemical metal cleaning waste, metal cleaning waste, and process area stormwater); and non-process area stormwater from OxyChem's chlor-alkali units and associated cogeneration facility, as well as from Air Products' Hydrogen Purification Plant and Koch's Nitrogen Ammonia Terminal.

Occidental Chemical Corporation, Taft Plant is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Manufacturing Operation
Chlorine/Caustic,
(Diaphragm Cell, Mercury Cell)

Guideline
40 CFR 415.63, Subpart F

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRA:	MBASUREMENT FREQUENCY	
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report			Continuous
pH Range Excursions No. of Events >60 minutes		0 (*1)			Continuous

PARAMETER (S)	TER(S) MASS, LBS/DAY CONCENTRATION, MG/L unless otherwise stated unless otherwise stated		· · · · · · · · · · · · · · · · · · ·		MRASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY "MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM -	
pH Range Excursions Monthly Total Accumulated Time in Minutes		446 (*1)			Continuous
pH (Standard Units)			Report (*1) (Min)	Report (*1) (Max)	Continuous
TSS	2367	5089			1/week
Oil and Grease	324	485			1/quarter
Chlorine, Total Residual	33.6	55.3			once per 60 days
Total Copper	20.83	51.02		-	once per 60 days
Total Lead	10.20	25.09		÷ = =	1/year
Total Nickel	15.73	41.24			once per 60 days
Biomonitoring	SeeIX.D				1/year

(*1) The pH shall be within a range of 6.0 - 9.0 Standard Units at all times subject to the continuous monitoring pH range excursion provision in Other Conditions, Paragraph I of the draft permit.

Plow: This requirement has been established in accordance with LAC 33:IX.2707.I.1.b and retained from the current LPDES permit. The continuous monitoring frequency has also been retained.

pH: This requirement has been established in accordance with LAC 33:IX.1113.C.1 and retained from the current LPDES permit. The continuous monitoring frequency has also been retained.

TSS: Daily maximum and monthly average limitations have been established based upon 40 CFR 415, Subpart F and Table 11-35 of the Inorganic Development Document. Process and non-process area stormwater allocations were given based upon a flow of 0.411 MGD and Table 11-35 of the Inorganic Development Document listing the Best Practicable Control Technology Currently Available as a Daily Maximum

concentration of 120 mg/L and a Monthly Average concentration of 58 mg/L. Additionally, allocations were also given based upon 40 CFR 415, Subpart F using a production rate of 4252 (1000 lbs/day). See Appendix A for a more detailed explanation of limitation calculations. The monitoring frequency of 1/week has been retained from the current LPDES permit.

Oil & Grease: Daily maximum and monthly average limitations have been established based upon concentrations of 15mg/L daily maximum and 10mg/L monthly average using BPJ and a flow of 3.88 MGD. See Appendix A for a more detailed explanation of limitation calculations. The monitoring frequency has been reduced from 1/month to 1/quarter based on BPJ.

Total Residual Chlorine: Daily maximum and monthly average limitations have been established based upon 40 CFR 415, Subpart F and a production rate of 4252 (1000 lbs/day). See Appendix A for a more detailed explanation of limitation calculations. The monitoring frequency has been reduced from 1/week to 1/60 days based on BPJ.

Total Copper, Total Lead, and Total Nickel: Daily maximum and monthly average limitations have been established based upon 40 CFR 415, Subpart F and a production rate of 3232 (1000 lbs/day). See Appendix A for a more detailed explanation of limitation calculations. The monitoring frequencies of 1/60 days for Total Copper and Total Nickel and 1/year for Total Lead have been retained from the current LPDES permit based on BPJ.

Site-Specific Consideration(s)

Chemical Metal Cleaning Waste: OxyChem does not expect that copper or zinc would be present at treatable levels in co-generation wastewaters due to their water treatment chemicals and because virtually no brass or other admiralty metals are used at the co-generation facility. If treatable levels of copper or iron are encountered in chemical metal cleaning wastewater, these streams will either be treated on-site or will be collected separately and disposed of off-site.

3. Internal Outfall 101 - The intermittent discharge of treated groundwater remediation wastewater and process area stormwater from the groundwater remediation area.

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRAT	MEASUREMENT FREQUENCY	
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report			1/week(*1)
Chloroform				325	1/quarter

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRA'	MEASUREMENT FREQUENCY	
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE TO	DAILY MAXIMUM	
1,2- Dichloroethane				574	1/quarter
1,1,2,2- Tetrachloroethane				574	1/quarter
Trichloroethylene				69	1/quarter

^(*1) When discharging.

Flow: Established in accordance with LAC 33:IX.2707.I.l.b and retained from the current LPDES permit. The monitoring frequency of 1/week when discharging has also been retained.

Chloroform: In accordance with LAC33:IX.2707.L.2.a.ii.(b), the daily maximum limitation for Chloroform has been increased from 295 μ g/L to 325 μ g/L to be consistent with 40 CFR 414 Subpart J (Direct Discharge Point Sources That Do Not Use End-of-Pipe Biological Treatment). The monitoring frequency has been reduced from 1/2 months to 1/quarter based on BPJ.

1,2-Dichloroethane: Daily maximum limitation of 574 μ g/L has been established based upon 40 CFR 414 Subpart J (Direct Discharge Point Sources That Do Not Use End-of-Pipe Biological Treatment) and retained from the current LPDES permit. The monitoring frequency has been reduced from 1/2 months to 1/quarter based on BPJ.

1,1,2,2-Tetrachloroethane: Daily maximum limitation of 574 μ g/L initially established in the NPDES permit effective November 1, 1989 and retained from the current LPDES permit. The August 8, 1988 NPDES factsheet states: "The concentration for 1,1,2,2-Tetrachloroethane which is not regulated in Subpart J is set equal to those established for 1,2-Dichloroethane." The monitoring frequency has been reduced from 1/2 months to 1/quarter based on BPJ.

Trichloroethylene: Daily maximum limitation of 69 μ g/L has been established based upon 40 CFR 414 Subpart J (Direct Discharge Point Sources That Do Not Use End-of-Pipe Biological Treatment) and retained from the current LPDES permit. The monitoring frequency has been reduced from 1/2 months to 1/quarter based on BPJ.

4. Internal Outfall 201 - The intermittent discharge of treated sanitary wastewater from OxyChem, as well as from Air Products' Hydrogen Purification Plant, Koch's Nitrogen Ammonia Terminal, and the (inactive) Mosaic Fertilizer Plant.

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		1 .	ATION, MG/L merwise stated	MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	4. 8.
Flow, MGD	Report	Report		-	1/quarter
BODs			45	65	1/quarter
TSS			90	135	1/quarter
Fecal Coliform colonies/100ml			200	400	1/quarter

Flow: Established in accordance with LAC 33:IX.2707.I.1.b and retained from the current LPDES permit. The monitoring frequency has been reduced from 1/month to 1/quarter based on BPJ and to be consistent with the other parameters at this internal outfall.

BODs: Limitations have been retained from the current LPDES permit and are based upon LAC 33:IX.711.D.l.c. The statistical basis has been changed to a daily maximum in lieu of a weekly average to be consistent with the new LDEQ guidance for sanitary wastewaters. The monitoring frequency has been reduced from 1/month to 1/quarter based on BPJ.

TSS: Limitations have been retained from the current LPDES permit and are based upon LAC 33:IX.711.D.1.c. The statistical basis has been changed to a daily maximum in lieu of a weekly average to be consistent with the new LDEQ guidance for sanitary wastewaters. The monitoring frequency has been reduced from 1/month to 1/quarter based on BPJ.

Fecal Coliform: Limitations have been established based upon LAC 33:IX.1113.C.5 and retained from the current LPDES permit. The statistical basis has been changed to a daily maximum in lieu of a weekly average to be consistent with the new LDEQ guidance for sanitary wastewaters. The monitoring frequency has been reduced from 1/month to 1/quarter based on BPJ.

6. Outfall 002 - the intermittent discharge of river water clarifier sludge

PARAMETER (S)	PARAMETER(S) MASS, LBS/DAY unless otherwise stated			ATION, MG/L erwise stated	MBASUREMENT PREQUENCY
· · · · · · · · · · · · · · · · · · ·	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVBRAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report			1/week

Plow: Established in accordance with LAC 33:IX.2707.I.1.b and retained from the current LPDES permit. The monitoring frequency of 1/week has also been retained.

6. Outfall 003 - the intermittent discharge of low contamination potential stormwater runoff

PARAMBTER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRA unless othe	MEASUREMENT FREQUENCY	
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report			1/quarter
тос				50	1/quarter
Oil & Grease		- • -		15	1/quarter
pH Standard Units			6.0 (min)	9.0 (max)	1/quarter

Plow: Established in accordance with LAC 33:IX.2707.I.l.b and retained from the current LPDES permit. The monitoring frequency of 1/quarter has also been retained.

TOC and Oil & Grease: Daily Maximum limitations of 50 mg/L for TOC and 15 mg/L for Oil and Grease have been established in accordance with a letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6) (Stormwater Guidance) and retained from the current LPDES permit. The monitoring frequency of 1/quarter has also been retained.

pH: Established in accordance with LAC 33:IX.1113.C.1 and retained from the current LPDES permit. The monitoring frequency of 1/quarter has also been retained.

Other Requirements Applicable to All Stormwater:

In accordance with LAC 33:IX.2707.I.3 and 4 [40 CFR 122.44(I)(3) and (4)], a Narrative Requirements condition is proposed for applicability to all storm water discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. For first time permit issuance,

the Narrative Requirements condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit. For renewal permit issuance, the Narrative Requirements condition requires that the Storm Water Pollution Prevention Plan (SWP3) be reviewed and updated, if necessary, within six (6) months of the effective date of the final permit. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by reference to the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of stormwater associated with industrial activity, as defined in LAC 33:IX.2511.B.14 [40 CFR 122.26(b) (14)].

7. Outfall 004 - The intermittent discharge of low contamination potential stormwater runoff from an undeveloped area, an area around a closed, capped dredge disposal area, and an area around a raw brine pond.

PARAMETER (S)	MASS, LBS/DAY unless otherwise stated		CONCENTRA unless c sta	MEASUREMENT FREQUENCY	
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	saje su e
Flow, MGD	Report	Report			1/quarter
TOC				50	1/quarter
Oil & Grease				15	1/quarter
Chlorides			Report	Report	1/quarter
pH Standard Units			6.0 (min)	9.0 (max)	1/quarter

Plow: Established in accordance with LAC 33:IX.2707.I.1.b and retained from the current LPDES permit. The monitoring frequency of 1/quarter has also been retained.

ToC and Oil & Grease: Daily Maximum limitations of 50 mg/L for TOC and 15 mg/L for Oil and Grease have been established in accordance with a letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6) (Stormwater Guidance) and retained from the current LPDES permit. The monitoring frequency of 1/quarter has also been retained.

Chlorides: Report requirement has been retained from the current LPDES permit. This requirement was initially established in the April 1, 1999 LPDES permit due to elevated levels indicated in analytical data submitted with OxyChem's January 15, 1998 renewal application. The monitoring frequency of 1/quarter has also been retained.

pH: Established in accordance with LAC 33:IX.1113.C.1 and retained from the current LPDES permit. The monitoring frequency of 1/quarter has also been retained.

 Outfall 005 - the intermittent discharge of low contamination potential stormwater runoff

PARAMETER (S)	MASS, LBS/I otherwise	e stated	CONCENTRA' unless c	MEASUREMENT FREQUENCY	
n li se g sali se	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	en e
Flow, MGD	Report	Report			1/quarter
тос				50	1/quarter
Oil & Grease				15	1/quarter
pH Standard Units			6.0 (min)	9.0 (max)	1/quarter

Plow: Established in accordance with LAC 33:IX.2707.I.1.b and retained from the current LPDES permit. The monitoring frequency of 1/quarter has also been retained.

TOC and Oil & Grease: Daily Maximum limitations of 50 mg/L for TOC and 15 mg/L for Oil and Grease have been established in accordance with a letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6) (Stormwater Guidance) and retained from the current LPDES permit. The monitoring frequency of 1/quarter has also been retained.

pH: Established in accordance with LAC 33:IX.1113.C.1 and retained from the current LPDES permit. The monitoring frequency of 1/quarter has also been retained.

C. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations and/or specific analytical results from the permittee's application were screened against state water quality numerical standard based limits by following guidance procedures established in the <u>Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards</u>, LDEQ, October 7, 2009. Calculations, results, and documentation are given in Appendix B.

In accordance with LAC 33:IX.2707.D.1/40 CFR § 122.44(d)(1), the existing (or potential) discharge (s) was evaluated in accordance with the <u>Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards</u>, LDEQ, October 7, 2009, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any

state water quality standard." Calculations, results, and documentation are given in Appendix B.

The following pollutants received water quality based effluent limits:

POLLUTANT (S)
None

Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the <u>Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards</u>, LDEQ, October 7, 2009. They are also listed in Other Conditions, Paragraph K of the permit.

TMDL Waterbodies

Outfalls 001 and 002

OxyChem discharges treated process wastewater from OxyChem's chlor-alkali units and associated co-generation facility, as well as from Air Products' Hydrogen Purification Plant and Koch's Nitrogen Ammonia Terminal; process area stormwater from OxyChem's chlor-alkali units and associated co-generation facility, as well as from Air Products' Hydrogen Purification Plant and Koch's Nitrogen Ammonia Terminal; brine processing wastewater; chlorine condensate, cell renewal wastewater, caustic evaporation wastewater, laboratory wastewater, pump and process seal water; miscellaneous wash waters (including equipment cleaning and descaling water, tank and equipment cleaning wastewater and neutralized acid-cathode washing wastewater); miscellaneous utility wastewaters from Koch's Nitrogen Ammonia Terminal (including evaporative condenser water, equipment cleaning water, hydrostatic test water, and vehicle wash water); hydrostatic test waters; cooling tower blowdown; utility condensate; sulfate purge wastewater; previously monitored effluent from Internal Outfall 101 (treated groundwater remediation wastewater and process area stormwater from the groundwater remediation area); previously monitored effluent from Internal Outfall 201 (treated sanitary wastewater); wastewaters associated with the co-generation facility operations (cooling tower blowdown, boiler blowdown, demineralization regeneration wastewater, filter backwash water, equipment drains, chemical metal cleaning waste, metal cleaning waste, and process area stormwater); and non-process area stormwater from OxyChem's chlor-alkali units and associated cogeneration facility, as well as from Air Products' Hydrogen Purification Plant and Koch's Nitrogen Ammonia Terminal (Outfall 001) and river water clarifier sludge (Outfall 002) to the Mississippi River, Segment No. 070301. The Mississippi River is not listed on the 2006 Final Integrated Report

as being impaired. Therefore, no additional requirements have been established in this permit.

Outfalls 003, 004, and 005

OxyChem discharges low contamination potential stormwater runoff (Outfalls 003 and 005), and low contamination potential stormwater runoff from an undeveloped area, an area around a closed, capped dredge disposal area, and an area around a raw brine pond (Outfall 004) to local drainage, thence to St. Charles Canal, thence to Bayou Fortier, thence to Lac Des Allemandes, Subsegment 020202 of the Barataria Basin. Subsegment 020202 of the Barataria Basin is listed on LDEQ's Final 2006 303(d) List as impaired for dissolved oxygen. To date no TMDLs have been completed for this waterbody. A reopener clause will be established in the permit to allow for the requirement of more stringent effluent limitations and requirements as imposed by a TMDL.

Dissolved Oxygen

The types of wastewaters permitted to discharge from Outfalls 002, 003, 004, and 005 do not have a history of causing or contributing to ambient DO impairments. DO impairments are typically attributed to improperly operated on-site domestic wastewater treatment systems, decentralized wastewater treatment, fill/drainage, crop production and unsewered residential districts. Additionally, no LDEQ finalized TMDL recognizes non-process waste streams, such as those consisting mainly of stormwater, as point source contributors to DO impairments where TMDLs have been established for these impairments.

However, in an effort to address the impairments during the development of the draft permit, TOC monitoring has been identified as a means of measuring organic materials in a discharge. Given the types of discharges and the suspected cause of the impairments, this Office has determined that it is appropriate to retain the 50 mg/L daily maximum limitation for TOC on these outfalls as an indicator parameter to monitor the organic constituents in the waste stream. The TOC limitation was originally established using stormwater guidance, in a letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6) and has been used in water discharge permits for similar types of discharges for 20 years and considered protective of waters of the state. Compliance with the limitations established in the permit should not result in the discharge of pollutant concentrations which would cause or contribute to further impairment of water quality standards.

D. Biomonitoring Requirements

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the

receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit for Outfall(s) 001 are as follows:

TOXICITY TESTS

Acute static renewal 48-hour definitive toxicity test using Daphnia pulex

FREQUENCY 1/year

Acute static renewal 48-hour definitive toxicity test using fathead minnow (<u>Pimephales</u> promelas)

1/year

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715/40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to the Office of Environmental Compliance. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the

result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 0.066%, 0.088%, 0.12%, 0.16%, and 0.21%. The low-flow effluent concentration (critical dilution) is defined as 0.16% effluent.

X. Compliance History/DMR Review:

- A. LDEQ records were reviewed for the period of January 2007 through November 2009.
- B. Based on a review of DMR data for the period of January 2007 through October 2009, the facility has reported no effluent excursions.
- C. Enforcement Actions

Air - No open Enforcement Actions Hazardous Waste - No open Enforcement Actions Solid Waste - No open Enforcement Actions Water - No open Enforcement Actions

D. Facility Inspection

Date performed: 02/27/2008

Inspector: Zolia Osteichoechea

Findings: No areas of concern noted.

XI. "IT" Questions - Applicant's Responses

The "IT" Questions along with the applicant's responses can be found in the Permit Application (dated February 23, 2009).

XII. Endangered Species:

Outfalls 001 and 002

The receiving waterbody, Subsegment 070301 of the Mississippi River Basin, has been identified by the U.S. Fish and Wildlife Service (FWS) as habitat for the Pallid Sturgeon, which is listed as threatened and/or endangered species. This draft permit has been submitted to the FWS for review in accordance with a letter dated January 5, 2010 from Rieck (FWS) to Nolan

(LDEQ). As set forth in the Memorandum of Understanding between the LDEQ and the FWS, and after consultation with FWS, LDEQ has determined that the issuance of the LPDES permit is not likely to have an adverse effect upon the Pallid Sturgeon. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

Outfalls 003, 004, and 005

The receiving waterbody, Subsegment 020202 of the Barataria Basin is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS).

XIII. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XIV. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in the application.

XV. Variances:

No requests for variances have been received by this Office.

XVI. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List